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In this family two genera are mentioned which possess prominent ancestral characters: *Atrac-tocerus*, with eight visible ventral segments, and *Hylecetes*, with a rudimentary median ocellus.

PROFESSOR I. BOLIVAR describes \* and figures a remarkable Coleopterous larva belonging to the family Lampyridæ which he received from the Philippines. At a casual glance the figure looks much like that of some fossil trilobite. The thorax is extremely large and broad, the head apparently sunk in the prothorax; the abdominal segments are small and laterally produced. M. J. Bourgeois, who has examined the figure thinks that it may belong to the genus *Broxylus*, a genus close to our *Calopteron*.

A. SKORIKOW in an article on some Collembola from Spitzbergen † gives a résumé of the known distribution of Collembola on Arctic islands. Of the thirty-four species only fourteen have been recorded from more than one island. Six species are common to four different islands, five of these being well-known European forms. He also tabulates the percentage of species in the various families and compares it to the Russian Collembola. This shows that in the Arctic regions the Aphoruridæ, Poduridæ and Isotomini are the predominant types, while in Russia the Entomobryini and Smynthuridæ are the predominant forms.

MR. F. O. P. CAMBRIDGE has begun ‡ a revision of the genera of spiders with reference to their type species. He differs considerably from both Simon and Thorell, who have previously investigated this subject. He makes several important changes in this part. The genus *Drassus* is held not to be a synonym of *Gnaphosa*; *Micromata* becomes transferred to the Clubionidæ, with *M. accentuata* Walck. as type; and *Salticus* has for its type *S. scenicus*, so that *Epiblemmum* falls to the synonymy. It is doubtful, however, if Mr. Cambridge's work will lead to greater uniformity in the use of genera of spiders, as so much depends on the rules used

\* Dos formas larvarias de lampiridos. *Act. Soc. Es-pañola de Historia Natural*, Vol. XXVIII., 1899, p. 130-133.

† Annuaire du Musée Zoologique Acad. Imp. St. Petersburg, Vol. V. (1900), p. 190-209.

‡ *Ann. Mag. Nat. Hist.*, 1901, Jan., pp. 51-65.

in type-fixation. Few of the ancient authors had the slightest idea of a genotype, so that every attempt to read this modern idea in their writings will be largely influenced by opinion. In fact there is less uniformity in the use of genera of spiders than there was ten years ago.

S. PROWAZEK has studied \* the development of a Collembolan, *Isotoma grisea*, and finds, among other interesting matters, that the antennæ are primitively post-oral, and attain their pre-oral position at a later stage.

MM. J. DANYSZ and K. Wize have published a little brochure † on the use of fungous diseases against *Cleonus punctiventris*, a weevil injurious to beets and mangel-wurzels in Central Europe. The value of this method had previously been shown by several Russian experimenters, notably by Professor Krassil-stchik, of the University of Odessa. The work of the French writers has been principally on methods of inoculating the soil. They found that where the beet is cultivated by rotation every four or six years the fungus was apt to die out. Therefore, they have devised methods for inoculating the beet fields anew each year.

NATHAN BANKS.

#### WORKING OF PATENTS ACTS.

PROBABLY no single influence has had more to do with the advancement of the industrial interests of the United States and with the resultant prosperity of the nation than the patent-acts. They were fundamental elements of primary legislation on the organization of the Government, and Hamilton and other of those early statesmen to whom so much is due initiated a patent system as a first and most effective instrument in the development of manufactures in a country previously deprived of those industries through the repressive legislation of the mother country. The patent system of the United States became a model for the world and, very slowly but none the less steadily, other nations, one by one, took up its most distinctive methods. The United States promptly

\* *Arbeit Zool. Inst. Wien*, XII. (1900), pp. 335-370.

† *De l'utilisation des Muscardines dans la lutte avec le Cleonus punctiventris*. Paris, 1901.

secured a lead, as great in its field as has become, meantime, that of Germany in industrial education. During late years, the patent system of Great Britain, formerly exceedingly crude, costly to the inventor and the nation, and in all ways unsatisfactory to those who were unselfishly and honestly interested in the advancement of British trade, has been greatly modernized and liberalized ; but it has not, even yet, been made fairly comparable with that of the United States.

An important commission, appointed by the Board of Trade and composed of some of the ablest experts and best known men in the kingdom, has just reported upon its operation and it is perhaps possible to deduce from this report conclusions that may be useful in promoting the still further improvement of our own system, of late years reduced rather than improved in its efficiency by legislation and by official interpretations of doubtful provisions of law. After examining into the operation of the British patent laws and receiving the testimony of officials of the patent office, of referees, litigants, users of patented articles, patent agents and experts, the commission reported.

It was found that, of patents issued, only 57.6 per cent. were actually novel and unanticipated by previous invention. Nearly 7 per cent. had been fully anticipated in all details ; 35 per cent. had been partially anticipated ; a few were claims on old devices and others described no method of manufacture. Forty-two per cent. had thus been anticipated, in whole or in part.

The commission states its opinion that the granting of invalid patents is thus a very serious evil and one which should be at once abolished. A method of examination like that of the U. S. Patent Office is recommended, and a scrupulous system of detection and elimination of anticipated claims. It recommends, however, a curious limitation : That "the publication of an invention in specifications of letters patent granted in the United Kingdom dated fifty years or more previous to the date of the application, or in a provisional application, of any date, of the kind before mentioned, shall not in itself be deemed an anticipation of the invention."

It is recommended that time, not to exceed two *months* (two *years* time is given in the United States Patent Office) should be allowed for amendment of a claim, and that a system of appeal, very like that long in operation in the United States, be allowed in case of rejection. This provision, restricting amendment to a period of two months, if it had been adhered to in the United States, would have prevented the litigation now in progress over the Berliner and other patents in this country, and would have saved a vast amount of expense to the litigants and insured a larger employment of inventions in improvement of existing practice and would have saved enormous injury to patentees and to the nation.

This British commission also considers the matter of compulsory licenses. It often happens, in that country as in this, that valuable patents are purchased by wealthy and powerful interests and simply held, unused, to prevent their competition with the holders and to evade that serious difficulty often met with in the compulsory replacement of existing and fairly satisfactory apparatus by the improved device. Every great corporation and many smaller organizations hold patents thus concealed and out of use, until their own special interests make it desirable to put them into use; and the public is thus defrauded of all that advantage, meantime, which is its proper compensation for the establishment and maintenance of a patent system. The British patent laws have, for nearly twenty years, provided, as have *not* those of the United States, against this abuse. It is made the duty of the proper officials to grant an order compelling the holder of the patent to grant licenses on terms to be adjudged fair and equitable by the proper government officials. This provision has been subject to some criticism in its details, and the commission advises its amendment and improvement ; adhering, however, to the underlying principle that the public should not lose its rights or the advantage assumed to be gained by it when providing the legal forms of a patent system and of protection to the inventor. It is recommended that the 'High Court' shall receive and consider complaints reciting the facts, if they so prove, that the applicant is in-

terested in the invention, that the reasonable requirements of the public have not been satisfied, by reason of the refusal or neglect of the patentee to work, or to grant licenses to work, the patent, and that the court, if the assertions of the claimant appear to be justified by the facts, shall make an order conferring a license upon the applicant on terms found by the court itself to be just and reasonable.

Reciprocity in patent matters is advised as between Great Britain and other countries prepared to offer similar facilities and protection for the foreign patentee. It would be an excellent reform could a real international reciprocity, based on the best practice of the United States, be arranged to include Germany; which country has illustrated some very objectionable and inequitable patent law methods.

Should the recommendations of the commission be accepted and the British Office be reconstructed as proposed, it will provide as practically satisfactory a system of protection as does that of the United States; changing thus from one of the most useless to one of the best of patent systems of the time. It will be interesting to note whether Great Britain, after all, will ultimately provide a more equitable system in regard to purposely delayed issues and un-worked patents—the two main defects and abuses of the existing law of the United States—than our 'pioneer' code now offers. It will be most discreditable if our committees of Congress and our Commissioners of Patents do not initiate, and Congress perfect, remedies for these two radical and inexcusable defects in our own patent law.

R. H. THURSTON.

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*A MINERAL SURVEY IN TEXAS.*

THE Legislature of the State of Texas has recently passed an act (House Bill 135), approved by the Governor, March 28, 1901, providing for "a mineral survey of the lands belonging to the public schools, university and asylum, or of the State, and to make appropriation therefor, and to provide a penalty for unlawfully disclosing information obtained by such survey; and to loan and authorize the removal to the University of the geological and scientific equipments, collections, specimens and

publications now in charge of the Commissioner of Agriculture, Insurance, Statistics and History; and also declaring an emergency."

By Section 1 the "Board of Regents of the University of Texas are authorized and directed, as soon as practicable, to have made a mineral survey of all lands belonging to the public schools, university, asylums, or of the State."

Section 2 requires that "said Board shall employ for that purpose persons skilled, who have had at least five years' experience, in the science of mineralogy, geology and chemistry, who shall conduct said survey. \* \* \*"

Section 3 relates to the publication annually 'for free distribution among the people of the State [of] all practical information collected in the prosecution of said survey as it progresses.' It provides, as a penalty, a fine 'not exceeding one thousand dollars or two years in jail' for divulging information concerning the public school, university, asylum or State lands in advance of publication.

In Section 4 provision is made 'for assays, analyses and other scientific examinations of specimens of mineral substances found in the State, and for the collection and distribution of statistics relating to the mineral production of the State. \* \* \*' For the assays, etc., a 'uniform and reasonable charge shall be fixed,' except at the request of the Governor or Commissioner of the General Land Office the examination of specimens found upon any of the public lands shall be made free of charge.

Section 5 provides for instruction in the University of Texas 'in practical economic and field geology and mineralogy,' and for the distribution of duplicate specimens to the A. and M. College.

Section 6 authorizes the removal of the specimens, books, and equipment (brought together by the Dumble Survey) now in charge of the Commissioner of Agriculture, Insurance, Statistics and History, to the University. These materials are 'loaned to said board, until such time as the State may desire to otherwise use them.'

Section 7 reads as follows: "For the purpose of carrying out the provisions of this Act, the sum of ten thousand dollars per annum for two years, or so much thereof as may be necessary,